<u>DECLARATION AND POWER OF ATTORNEY FOR UNITED STATES PATENT APPLICATION</u> ☑ Original □ Substitute Supplemental As a below named inventor, I hereby declare that: My residence, post office address and citizenship are as stated below next to my name, and I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if more than one name is listed below) of the subject matter which is claimed and for which a United States patent is sought on the invention entitled 8-QUINOLINXANTHINE AND 8-ISOQUINOLINXANTHINE DERIVATIVES AS PDE 5 INHIBITORS the specification of which: is attached hereto. was filed on as Application No. (day/month/year) and, if this box (□) contains an × was amended on (day/month/year) X was filed as Patent Cooperation Treaty international Application No. PCT/EP01/03909 05.04.2001 on (day/month/year) and, if this box (□) contains an × entered the national stage in the United States and was accorded Application No. and, if this box () contains an *

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment(s) referred to above and, if this application was filed as a Patent Cooperation Treaty international application, by any amendments made during the international stage (including any made under Patent Cooperation Treaty Rule 91, Article 19 and Article 34).

was amended, subsequent to entry into the national stage, on

I acknowledge my duty to disclose all information which is known by me to be material to the patentability of this application as defined in 37 C.F.R. § 1.56.

(day/month/year)

US

I hereby claim the benefit under 35 U.S.C. §119(a)-(d) or §365(b) of any foreign application(s) for patent or inventor's certificate listed below and under 35 U.S.C. §365(a) of any Patent Cooperation Treaty international application(s) designating at least one country other than the United States listed below and have also listed below any foreign application(s) for patent or inventor's certificate and Patent Cooperation Treaty international application(s) designating at least one country other than the United States for the same subject matter and having a filing date before that of the application the priority of which is claimed for that subject matter:

| COUNTRY/REGION (OR P.C.T.) | APPLICATION No. | FILING DATE (day/month/year) | F | RIORITY | / CLA | IMED |
|--|----------------------------|---------------------------------|--------|-----------|---------|-------|
| Great Britain | 0008694.2 | 07.04.2000 | × | Yes | | No |
| | | | | Yes | | No |
| | | | . 🗆 | Yes | | No |
| | | | | Yes | | No |
| | | | | Yes | | No |
| I hereby claim the benefi listed below: | t under 35 U.S.C. § 119 (e | e) of any United States p | rovisi | ional app | licatio | on(s) |
| APPLICATION NO. | | FILING DATE (day/month/year) | | | | |

I hereby claim the benefit under 35 U.S.C. §120 of any United States application(s) listed below and under 35 U.S.C. §365(c) of any Patent Cooperation Treaty international application(s) designating the United States listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in said prior application(s) in the manner required by the first paragraph of 35 U.S.C. §112, I acknowledge my duty to disclose all information known to me to be material to patentability as defined in 37 C.F.R. §1.56 which became available between the filing date(s) of the prior application(s) and the national or Patent Cooperation Treaty international filing date of this application:

| United States | United States | Status (Pending, | Interna | ntional |
|-----------------|------------------|-------------------|-----------------|------------------|
| Application No. | Filing Date | Abandoned or U.S. | Application No. | and Filing Date |
| | (day/month/year) | Patent No.) | | (day/month/year) |

I hereby appoint the registered practitioners associated with Customer No. 001095, respectively and individually, as my attorneys and agents, with full power of substitution and revocation, to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith.

If these brackets contain an X [X], I hereby authorize the registered practitioners associated with Customer No. 001095 and any others acting on my behalf to take any action relating to this application based on communications from the Patents and Trademarks Division of Novartis Pharma AG, Basle, Switzerland, or an affiliate thereof or a successor thereto, without direct communication from me.

Please address all communications to the address associated with Customer No. 001095, which is currently Thomas Hoxie, Novartis Corporation, Patent and Trademark Department, 564 Morris Avenue, Summit, NJ 07901-1027.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. §1001 and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Full name of sole or first joint inventor

Gurdip Bhalay

Inventor's signature

Residence

Horsham, West Sussex RH13 7XG, Great

Britain

Citizenship Great Britain

Post Office Address 61 Bamborough Close, Southwater, West

Sussex RH13 7XG, Great Britain

IMPORTANT: Before this declaration is signed, the patent application (the specification, the claims and this declaration) must be read and understood by each person signing it, and no changes may be made in the application after this declaration has been signed.

.

| Full name of second joint inventor, if any | St ph n Paul Collingwood | | |
|--|--|-----------|---------------------------------|
| Inventor's signature | StephenPaul Collugues | Date _ | 10 09 200 2 (day/month/year) |
| Residence | Horsham, West Sussex RH12 5AB, Great Britain | | |
| Citizenship | Great Britain | | |
| Post Office Address | Novartis Horsham Research Centre, Wimblehurst Road, Horsham, West Sussex RH12 5AB, Great Britain | | |
| Full name of third joint inventor, if any | Robin Alec Fairhurst | | |
| Inventor's signature | Robin Alex Fairhund | Date - | 20/05/02 (day/month/year) |
| Residence | Ashington, West Sussex RH10 7UN, Great Britain | | |
| Citizenship | Great Britain | | |
| Post Office Address | 5 Greenacres, Ashington, West Sussex RH20 3RL, Great Britain | | |
| Full name of fourth joint inventor, if any | Sylvie Felicite Gomez | | |
| Inventor's signature | Sylvie Télicité gomes | Date — | 18 09 0°2 (day/month/year) |
| Residence | Redcliff, Surrey RH1 2HR, Great Britain | | |
| Citizenship | France | | |
| Post Office Address | 53 Frenches Road, Redcliff, Surrey RH1 2HR, Great Britain | | |

Citizenship

Post Office Address

| Full name of fifth joint inventor, if any | Reto Naef | | |
|---|--|--------|------------------|
| Inventor's signature | | Date _ | (day/month/year) |
| Residence | 4310 Rheinfelden, Switzerland | | |
| Citizenship | Switzerland | | |
| Post Office Address | Juraweg 14, 4310 Rheinfelden, Switzerland | | |
| Full name of sixth joint inventor, if any | David Andrew Sandham | | |
| Inventor's signature | Dourt probon South | Date . | (day/month/year) |
| Residence | Horsham, West Sussex RH12 4BP, Great Britain | | |
| Citizenship | Great Britain | | |
| Post Office Address | 121 Rusper Road, Horsham, West Sussex RH12 4BP, Great Britain | | |
| Full name of seventh joint inventor, if any | | | |
| Inventor's signature | | Date | (day/month/year) |
| Residence | | | |

DECLARATION AND POWER OF ATTORNEY FOR UNITED STATES PATENT APPLICATION

| × | Original | | Supplemental | | Substitute |
|-------|-------------------------------|--------|---|--------|------------------|
| | | | | | |
| As a | below named inventor, I here | by d | eclare that: | | |
| My r | esidence, post office address | and | citizenship are as stated below next | to my | name, and |
| and | | ne na | e inventor (if only one name is listed time is listed below) of the subject m ght on the invention entitled | | |
| 8-Q1 | JINOLINXANTHINE AND 8-IS | SOQ | UINOLINXANTHINE DERIVATIVES | AS P | DE 5 INHIBITORS |
| the s | specification of which: | | | | |
| | is attached hereto. | | | | |
| | was filed on (day | /mon | as Application No. | | |
| | and, if this box (□) contain | ıs an | * | | |
| | □ was amended on | (da | y/month/year) | | |
| × | was filed as Patent Cooper | atior | n Treaty international Application No | | |
| | PCT/EP01/03909 | | on <u>05.04.2001</u> (day/month/year) | | |
| | and, if this box (□) contain | s an | × | | |
| | ☐ entered the national | al sta | ge in the United States and was acc | corded | Application No. |
| | and, if this box (□) contain | s an | x | | |
| | was amended, sub | sequ | ent to entry into the national stage, | on _ | |
| | | | | | (day/month/year) |

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment(s) referred to above and, if this application was filed as a Patent Cooperation Treaty international application, by any amendments made during the international stage (including any made under Patent Cooperation Treaty Rule 91, Article 19 and Article 34).

I acknowledge my duty to disclose all information which is known by me to be material to the patentability of this application as defined in 37 C.F.R. § 1.56.

I hereby claim the benefit under 35 U.S.C. §119(a)-(d) or §365(b) of any foreign application(s) for patent or inventor's certificate listed below and under 35 U.S.C. §365(a) of any Patent Cooperation Treaty international application(s) designating at least one country other than the United States listed below and have also listed below any foreign application(s) for patent or inventor's certificate and Patent Cooperation Treaty international application(s) designating at least one country other than the United States for the same subject matter and having a filing date before that of the application the priority of which is claimed for that subject matter:

| COUNTRY/REGION (OR P.C.T.) | APPLICATION No. | FILING DATE (day/month/year) | P | RIORIT | Y CLA | IMED |
|--|-----------------------------|---------------------------------|--------|-----------|-----------|-------|
| Great Britain | 0008694.2 | 07.04.2000 | × | Yes | | No |
| | | • | | Yes | | No |
| | | | | Yes | | No |
| | | | | Yes | | No |
| | | | | Yes | | No |
| I hereby claim the benefi listed below: | it under 35 U.S.C. § 119 (6 | e) of any United States p | provis | sional ap | oplicatio | on(s) |
| APPLICATION NO. | | FILING DATE | | | | |

I hereby claim the benefit under 35 U.S.C. §120 of any United States application(s) listed below and under 35 U.S.C. §365(c) of any Patent Cooperation Treaty international application(s) designating the United States listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in said prior application(s) in the manner required by the first paragraph of 35 U.S.C. §112, I acknowledge my duty to disclose all information known to me to be material to patentability as defined in 37 C.F.R. §1.56 which became available between the filing date(s) of the prior application(s) and the national or Patent Cooperation Treaty international filing date of this application:

| United States | United States | Status (Pending, | Interna | ntional |
|-----------------|------------------|-------------------|-----------------|------------------|
| Application No. | Filing Date | Abandoned or U.S. | Application No. | and Filing Date |
| | (day/month/year) | Patent No.) | | (day/month/year) |

US

I hereby appoint the registered practitioners associated with Customer No. 001095, respectively and individually, as my attorneys and agents, with full power of substitution and revocation, to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith.

If these brackets contain an X [X], I hereby authorize the registered practitioners associated with Customer No. 001095 and any others acting on my behalf to take any action relating to this application based on communications from the Patents and Trademarks Division of Novartis Pharma AG, Basle, Switzerland, or an affiliate thereof or a successor thereto, without direct communication from me.

Please address all communications to the address associated with Customer No. 001095, which is currently Thomas Hoxie, Novartis Corporation, Patent and Trademark Department, 564 Morris Avenue, Summit, NJ 07901-1027.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. §1001 and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

| Full name of sole or first joint inventor | Gurdip Bhalay | | |
|--|--|------|------------------|
| Inventor's signature | | Date | |
| • | | | (day/month/year) |
| | | | |
| Residence | Horsham, West Sussex RH13 7XG, Great Britain | | |
| Citizenship | Great Britain | | |
| Post Office Address | 61 Bamborough Close, Southwater, West Sussex RH13 7XG, Great Britain | | |

IMPORTANT: Before this declaration is signed, the patent application (the specification, the claims and this declaration) must be read and understood by each person signing it, and no changes may be made in the application after this declaration has been signed.

Residence

Redcliff, Surrey RH1 2HR, Great Britain

Citizenship

France

Post Office Address

53 Frenches Road, Redcliff, Surrey RH1

2HR, Great Britain

| Full name of fifth joint inventor, if any | Ret Naef | | |
|---|--|-----------|-------------------------------|
| Inventor's signature | Neto Nacf | Date | /8/9/2002 (day/month/year) |
| Residence | 4310 Rheinfelden, Switzerland | | |
| Citizenship | Switzerland | | |
| Post Office Address | Juraweg 14, 4310 Rheinfelden, Switzerland | | |
| Full name of sixth joint inventor, if any | David Andrew Sandham | | |
| Inventor's signature | | Date - | (day/month/year) |
| Residence | Horsham, West Sussex RH12 4BP, Great Britain | | |
| Citizenship | Great Britain | | |
| Post Office Address | 121 Rusper Road, Horsham, West Sussex RH12 4BP, Great Britain | | |
| Full name of seventh joint inventor, if any | | | |
| Inventor's signature | | Date – | (day/month/year) |
| Residence | | | |
| Citizenship | | | |
| Post Office Address | | | |